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INSTALLATION INSTRUCTIONS
for the
Assistant's Wall /Cabinet Mounted System (Rear Delivery System)

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INSTALLATION INSTRUCTIONS for the *Assistant's Wall /Cabinet Mounted System*

(Rear Delivery System)

SECTION I -REQUIREMENTS

1. PHYSICAL REQUIREMENTS

Before installing, ensure that the physical requirements of the unit are met (See Figure 1 and 2). This unit is designed to be mounted to a wall or cabinet and to function as a rear delivery system.

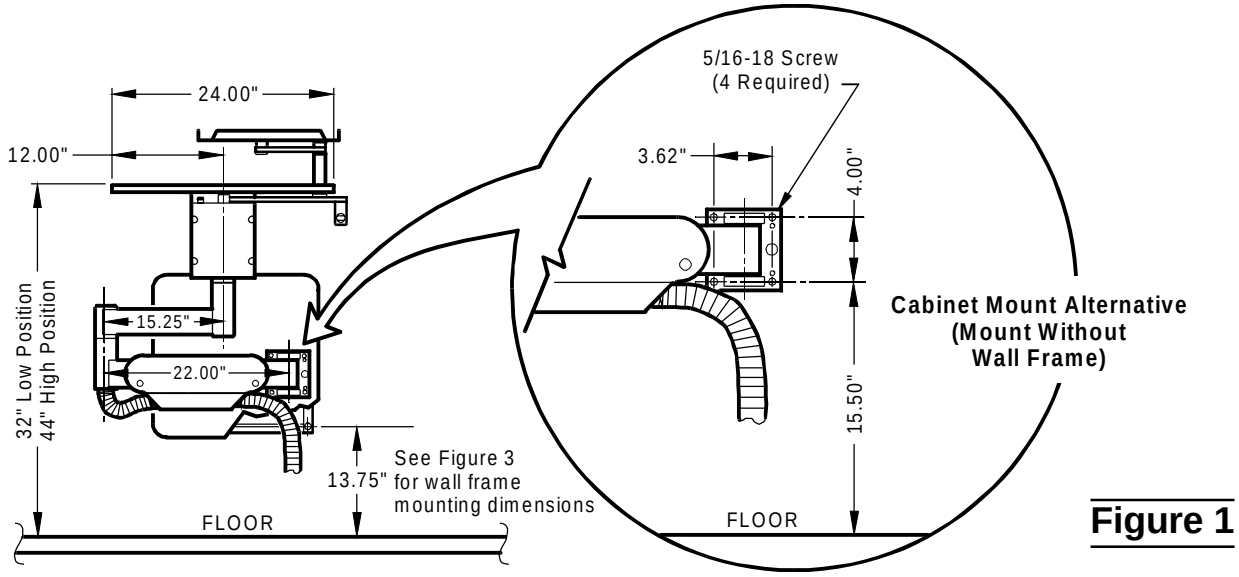
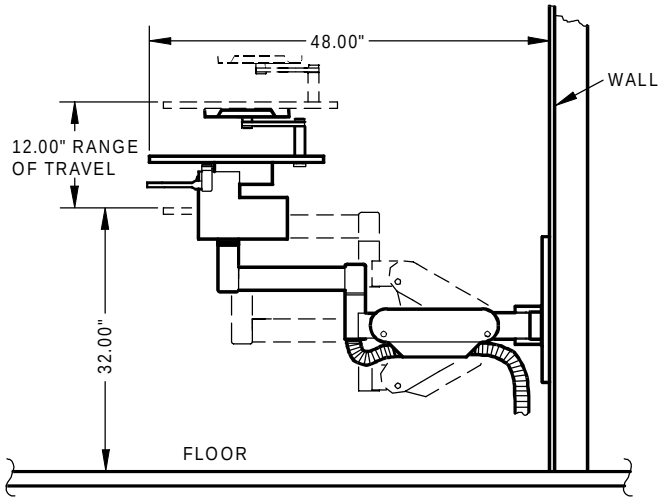
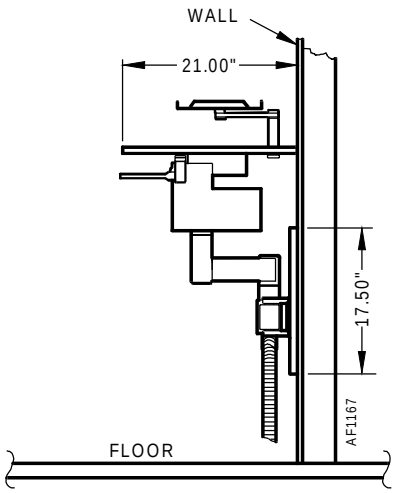


Figure 1





SECTION I - REQUIREMENTS (CONT)

2. SUGGESTED ROOM LAYOUT

The room layout shown is a suggestion and is not meant to be restrictive in any way. This layout may be altered to fit the situation or suit the doctor's personal preferences (See Figure 2).

3. ELECTRICAL REQUIREMENTS

Before connecting the line cord to an appropriate receptacle, make certain that the circuit is protected by a 15-amp circuit breaker for 120-VAC models, or a 7.5-amp breaker for 240-VAC models. Ensure that all wiring is grounded and all electrical codes are observed.

WARNING - Potential shock hazard with possible personal injury. To reduce shock hazard, observe all electrical codes.

4. WATER SUPPLY REQUIREMENTS

A 1/2 I.D. copper supply line, reduced to 3/8" O.D. copper tubing as near the shut-off valve as possible is required. The water pressure should be in the range of 30-50 psi. A suitable pressure reducing valve is essential for trouble free operation if the pressure exceeds the recommended range.

5. AIR SUPPLY REQUIREMENTS

A 1/2" I.D. copper supply line reduced to 3/8" O.D. copper tubing as near the shut-off valve as possible is required.

The air pressure must be between 75-100 psi at the valves. A pressure reducer should be installed if the pressure exceeds 100 psi.

For maximum life and trouble free operation, the air supply must be clean and dry. It is recommended that a moisture separator and filter be installed as near the connection as possible and accessible for periodic cleaning.

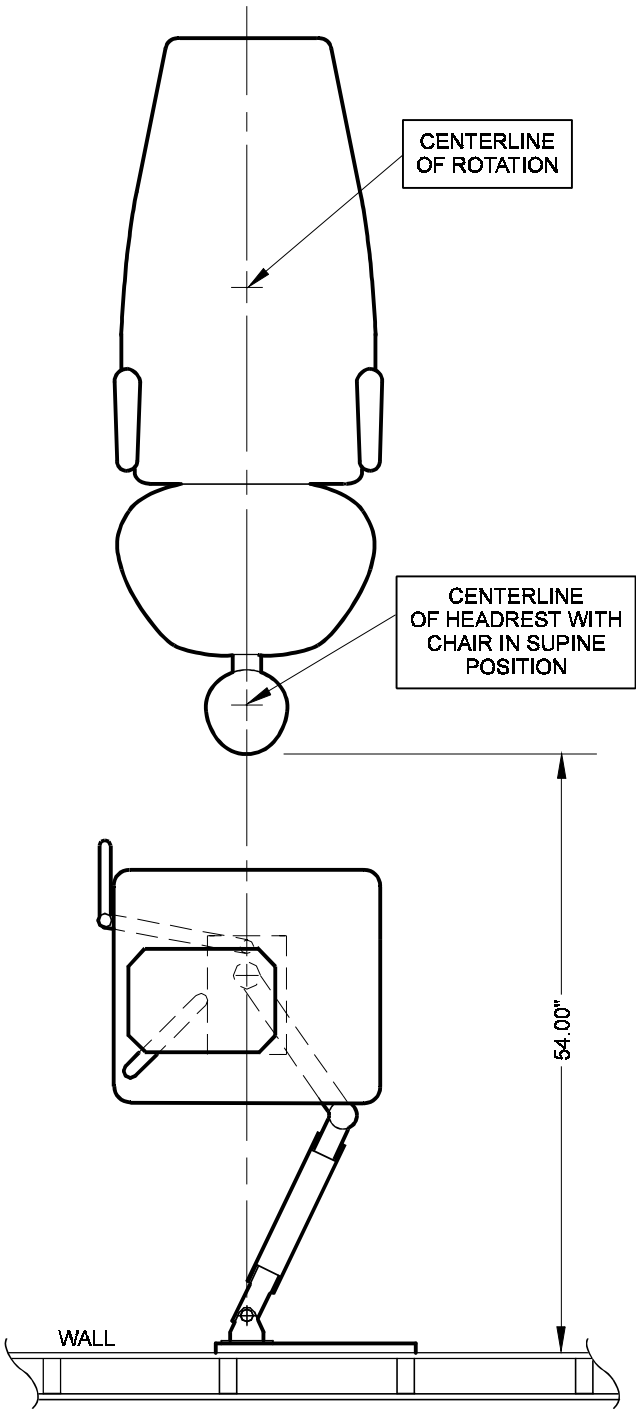


Figure 2

SECTION II - INSTALLATION

1. UNPACKING THE CARTONS

The unit is shipped in two cartons containing the following items:

LARGE BOX

- Large work surface
- Assistant's instruments and fixed arm assembly
- Flex arm assembly
- Tub or tray assembly

SMALL BOX

- Wall mounting frame and cover
- Wall mount kit (bearing plate, hardware, etc.)
- Installation instructions (this manual), an operator's manual, and warranty card

Check for signs of damage to the carton or to the contents. Make sure all items listed above are present. If there is any evidence of damage due to shipping or if any of the items are missing from the carton, notify the shipper at once. Be careful not to discard any small parts or instruction sheets with the packing material.

2. UTILITIES CONNECTION BOX INSTALLATION

The installation of the utilities connection box should be performed by a qualified technican. Refer to the installation plan TP1191 supplied with the connection box. This plan may be used as a template to locate the utilities for connection.

Please consider the following before beginning:

- The connection box can be installed anywhere in the room within the range of the 8 foot umbilical that will connect the box to the unit. Locate the box where the incoming service lines will not cause an obstruction.
- Air and water are the only services required unless a heated syringe or lighted handpieces are to be used.
- Waste lines, vacuum lines or auxiliary low voltage wiring are not necessary unless separate devices requiring these services are to be used.
- The location of the incoming services on the installation plan are suggestions and can be altered to suit the situation.

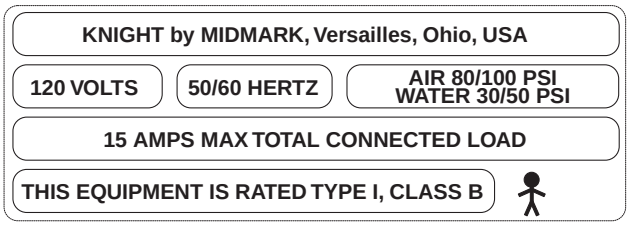
3. ELECTRICAL CONNECTIONS TO THE CONNECTION BOX (J BOX)

Domestic - Make the electrical connections to the J box as shown in Instruction TPW1487.

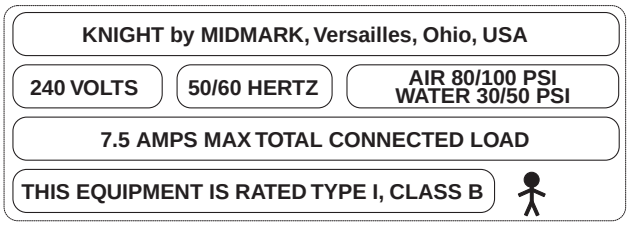
International - Make the electrical connections to the J box as shown in Instruction TPW1511. These J boxes have accessible fuses located on the front of the box.

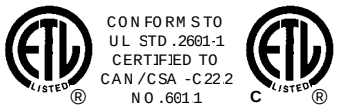
DANGER: Turn off all electrical power at the power source before making primary electrical connections.

RATING FOR 120 VOLT UNIT


KNIGHT by MIDMARK, Versailles, Ohio, USA
120 VOLTS
50/60 HERTZ
AIR 80/100 PSI
WATER 30/50 PSI
15 AMPS MAX TOTAL CONNECTED LOAD
THIS EQUIPMENT IS RATED TYPE I, CLASS B

RATING FOR 240 VOLT UNIT


KNIGHT by MIDMARK, Versailles, Ohio, USA
240 VOLTS
50/60 HERTZ
AIR 80/100 PSI
WATER 30/50 PSI
7.5 AMPS MAX TOTAL CONNECTED LOAD
THIS EQUIPMENT IS RATED TYPE I, CLASS B



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SECTION II - INSTALLATION (CONT)

4. INSTALLING THE MOUNT AND FLEX ARM (WALL MOUNT ALTERNATIVE)

The unit can be attached to any wall sound enough to support the unit in operation. Please use the following instructions:

1. The unit is supplied with a mounting frame that has been predrilled with 8 mounting holes on 16" centers. Use the frame as a template to locate these holes on the wall (See Figure 3).
2. Using the eight lag screws and washers provided, attach the frame to the wood studs of a wood frame constructed wall (See Figure 4).
3. Attach the frame cover to the frame using the four #10 panel screws provided.
4. Mount the flex arm assembly and the bearing plate to the mounting frame using four 1/4"-20 hex bolts and washers. **Do not tighten all the way.**
5. Check the level at the flex arm bearing housing (See Figure 5). Using the four adjustment set screws in the flex arm mount, make sure the flex arm is plumb in all positions. Tighten the four 1/4"-20 Hex Bolts that were left loose in step 4.

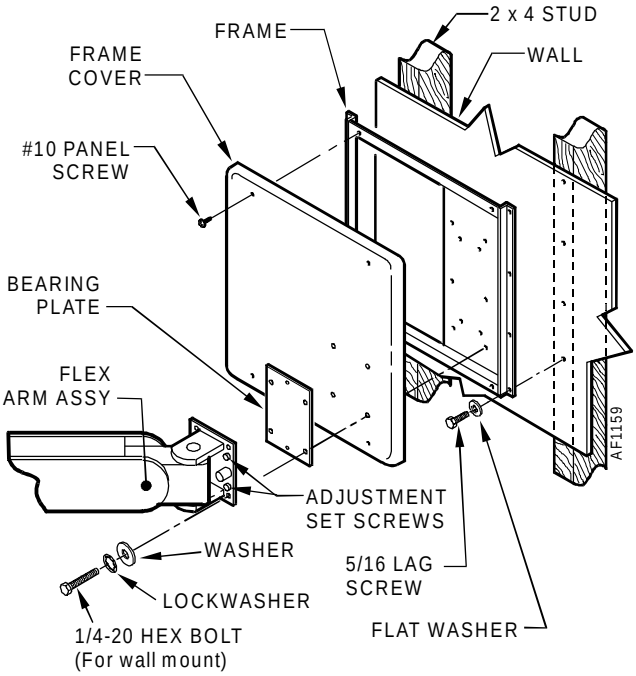


Figure 4

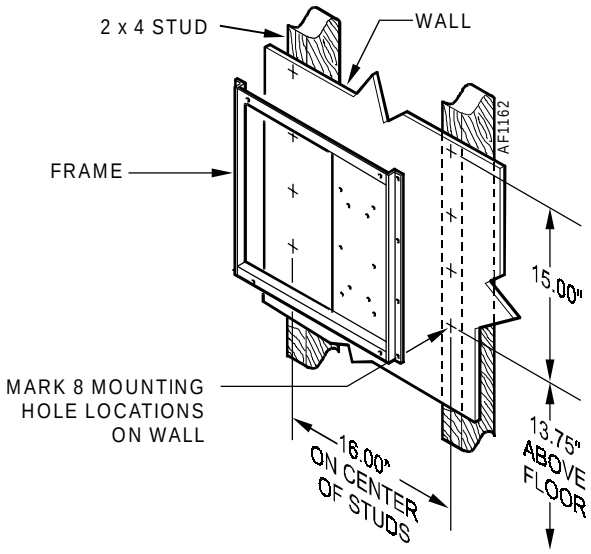


Figure 3

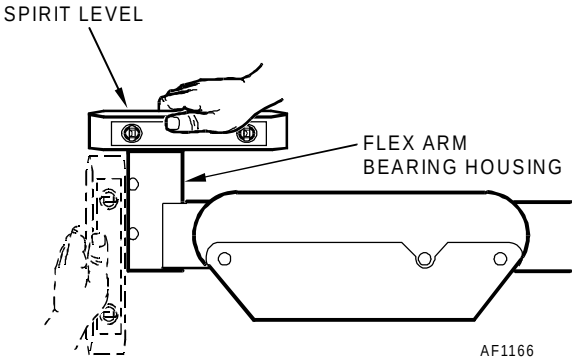


Figure 5

SECTION II - INSTALLATION (CONT)

5. INSTALLING THE MOUNT AND FLEX ARM (CABINET MOUNT ALTERNATIVE)

The unit can be attached to any cabinet sound enough to support the unit in operation. Please use the following instructions:

1. Using the bearing plate as a template, located and drill the mounting holes (See Figure 6).
2. Install the bearing plate on the cabinet by inserting two 8-32 painted screws through the bearing plate and into the 1/4" holes in the cabinet. Position the backing plate on the back side of the cabinet and tighten the screws (See Figure 7).
3. Mount the flex arm assembly onto the bearing plate using four 1/4"-20 hex bolts and washers. **Do not tighten all the way.**
4. Check the level at the flex arm bearing housing (See Figure 5). Using the four adjustment set screws in the flex arm mount, make sure the flex arm is plumb in all positions. Tighten the four 1/4"-20 Hex Bolts that were left loose in step 3.

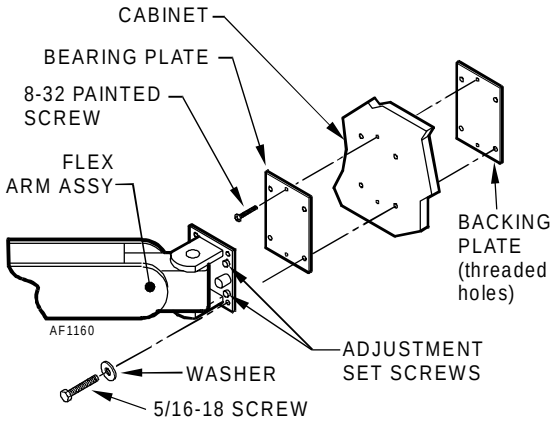


Figure 7

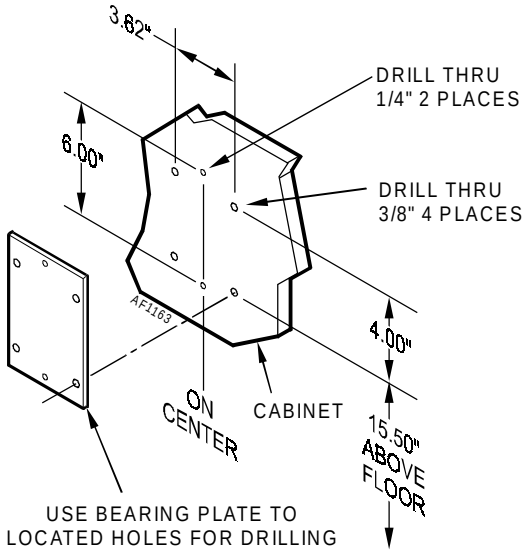


Figure 6

SECTION II - INSTALLATION (CONT)

6. INSTALLING THE ASSISTANT'S UNIT

After the mount and flex arm assembly is installed and level, the unit fixed arm assembly is mounted to the flex arm. Please use the following instructions:

1. Remove the bottom cover by removing the four screw covers, screws and screw bases (See Figure 8).
2. Thread the full length of the umbilical down through the flex arm bearing and insert the fixed arm hub into the flex arm bearing (See Figure 9).

NOTE ▶ **Make certain the plastic washer is in the position shown in Figure 7 before seating the fixed arm hub into the bearing.**

3. Tighten the lower 1/4"-20 set screw (stainless steel) to hold the outer umbilical hose in the bearing.
4. Tighten the upper 1/4"-20 set screw (brass tipped) until the desired fixed arm rotation friction is obtained.
5. Connect the 1/8" green air brake control tube (located at the mid point of the umbilical) to the 1/8" green air brake cylinder tube (located through the access hole on the bottom of the flex arm .
6. Replace the bottom cover. Take care not to pinch the green air brake control tube.
6. Route the umbilical to the utilities connection box and make the connections (See Figure 10 and 11).

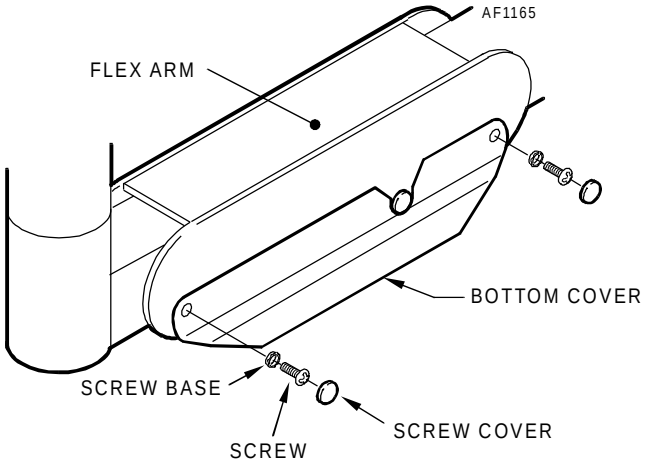


Figure 8

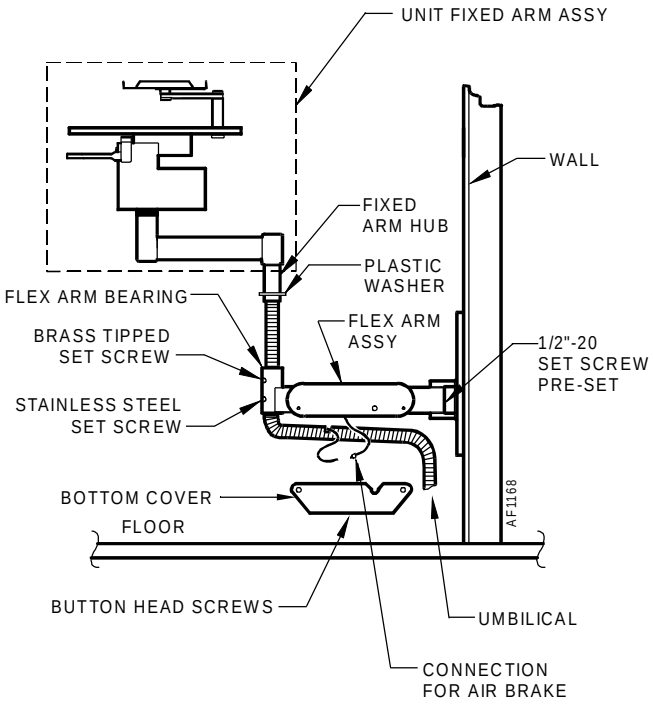


Figure 9

SECTION II - INSTALLATION (CONT)

7. TUBING CONNECTIONS

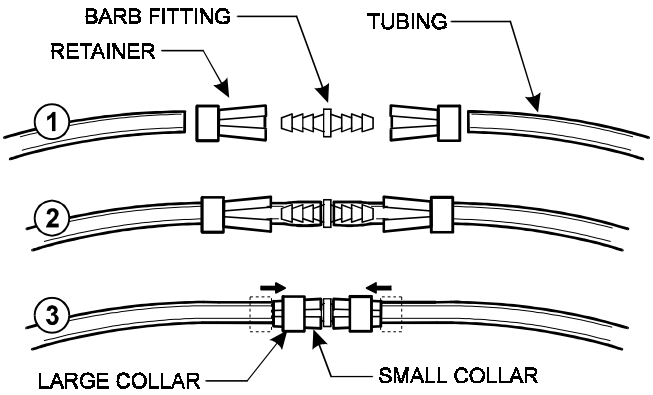
When connecting the umbilical tubings to the unit or other tubing, use the plastic retainers to secure the connection (Refer to Figure 10).

1/8" Tubing Connection

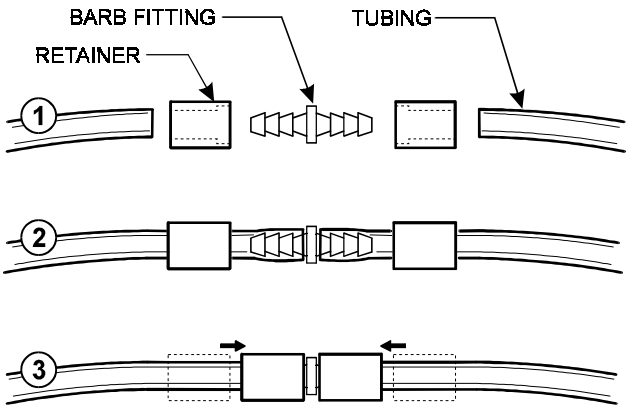
1. Slip the retainer (large end first) onto the tubing.
2. Push tubing onto the barb fitting and slide the retainer forward over the tubing on the barb fitting.
3. Break the large collar loose and slide it toward the fitting and over the small collar.

1/4" Tubing Connection

1. Slip the retainer onto the tubing with the large opening toward the end of the tubing.
2. Push the tubing onto the barb fitting.
3. Slide the retainer over the tubing on the barb fitting.



1/8" TUBING CONNECTION



1/4" TUBING CONNECTION

Figure 10

SECTION II - INSTALLATION (CONT)

6. UMBILICAL TUBING CONNECTIONS TO THE UTILITIES CONNECTION BOX (J BOX)

Figure 11 shows the connections to be made inside the J box. Refer to installation plan TP1191 supplied. This plan may be used as a template to locate the utilities for connection. The installation should be performed by a qualified technician.

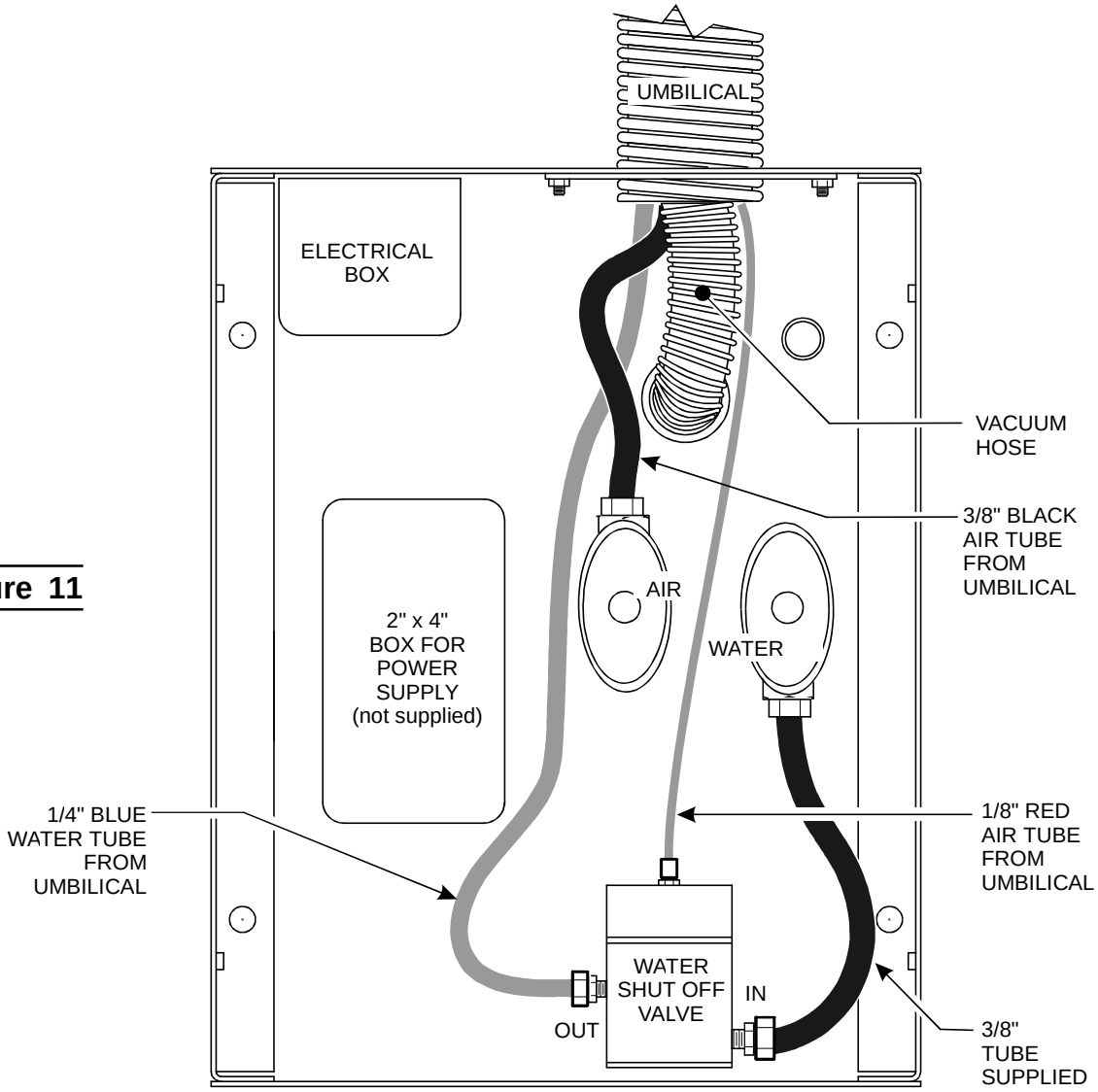


Figure 11

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SECTION III - OPERATIONAL CHECKS

When the installation is complete, certain operational checks should be made.

1. FIXED ARM MOVEMENT

Check the rotation movement of the fixed arm. The arm should move freely with some slight resistance providing stability. Refer to Section II if the arm needs further adjustment.

2. FLEX ARM MOVEMENT

The vertical flex arm tension has been pre-set at the factory and it is designed to support the weight of the delivery system without downward drift.

The flex arm also rotates at the mounting bracket. This tension is pre-set at the factory, but can be adjusted with a 1/2"-20 brass tipped set screw.

3. AIR BRAKE

Place a 10 lb load on the work surface. Push and hold in the air brake button located on the front panel of the unit. This releases the air brake and there should be no downward drift of the unit with the air brake off.

Release the air brake button and place a 40 lb load on the work surface. There should be no downward drift of the unit with the air brake actuated. If the unit is overloaded the air brake is designed to slip without damaging the mechanism.

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SECTION IV - FINAL CHECK LIST

When all the assembly and installation procedures are completed, the chair should be checked out in accordance with the following check list to ensure that assembly is complete and that all controls function properly.

- ☐ Check for proper arm movement.
- ☐ Check air brake control for proper function.
- ☐ Check complete system for any air or water leaks.
- ☐ Check the syringe for proper function and water flow.
- ☐ Make sure that the unit has been cleaned and that all dirt and finger prints have been removed.
- ☐ Be sure the person who will operate the unit receives the Operator's Manual and any other appropriate information or instructions.
- ☐ If any optional equipment has been installed, make sure it is properly installed and functioning as intended.

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